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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/885,929 | 06/22/2001 | Mohan Kalkunte | 58268-00015 | 5906 |
| 32294 | 7590 | 11/03/2005 | EXAMINER | |
| SQUIRE, SANDERS & DEMPSEY L.L.P. 14TH FLOOR 8000 TOWERS CRESCENT TYSONS CORNER, VA 22182 | | | DAVIS, CYNTHIA L | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2665 | |

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|-----------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/885,929 | KALKUNTE ET AL. |
| Examiner | Art Unit | |
| Cynthia L. Davis | 2665 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 10/5/2005.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-12 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-12 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 10/5/2005 have been fully considered but they are not persuasive.

Regarding claim 1, Kung does disclose an external address resolution module, the DNS server, and an interface to the DNS server. What is missing from Kung is that the external address resolution module is an external address resolution switch, the existence of which is taught in Miller. Substituting the switch of Miller for the DNS server of Kung would have been obvious to one skilled in the art at the time of the invention, as both are hardware that has the same function—to resolve addresses.

Regarding claim 5, Godfrey teaches a chip that may operate as a DNS server; it would have been obvious to one skilled in the art at the time of the invention to substitute the chip of Godfrey for the DNS server of Kung, as both are hardware that has the same function—to resolve addresses.

Regarding claim 12, see arguments to claim 1, above.

2. Applicant's arguments with respect to claims 8, 9, and 10 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-4 and 6-7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kung in view of Miller.

Regarding claim 1, a network switch comprising a plurality of input ports that receive data packets is disclosed in Kung, figure 2, element 210 (a gigabit switch would have a plurality of input ports). An external address resolution interface connected to at least one of said plurality of input ports, said external address resolution interface externally transmitting said data packets for processing, is disclosed in Kung, figure 2, element 214 (DNS is address resolution, the DNS is performed externally and must have an interface in order to communicate with the switch). A memory management unit is disclosed in Kung, figure 2, element 216 and column 8, lines 14-26. A plurality of output ports connected to the memory management unit is disclosed in figure 2, element 210 (a gigabit switch would have a plurality of output pods). Claim 1 further specifies that the external address resolution interface is coupled to an external address resolution switch, which is missing from Kung. However, Kung does disclose an external address resolution module in figure 2, element 214. Further, Miller discloses in column 2, lines 9-10, a switch with an address resolution processor. It would have been obvious to one skilled in the art at the time of the invention to use the switch of Miller as the external address resolution module of Kung. The motivation would be to use an available type of hardware for resolving addresses.

Regarding claim 2, the external address resolution interface being a high-speed external interface is disclosed in Kung, figure 2, elements 210 and 214 (in order for the switch to operate at gigabit speeds, the link between the switch and the DNS server must be high-speed).

Regarding claim 3, the external address resolution interface being an address resolution gigabit interface is disclosed in Kung, figure 2, elements 210 and 214 (in order for the switch to operate at gigabit speeds, the link between the switch and the DNS server must be at gigabit speed as well).

Regarding claim 4, an external ARL within the external address resolution switch being connected to said external interface is missing from Kung. However, Kung does disclose an external address resolution module in figure 2, element 214. Further, Miller discloses in column 2, lines 9-10, a switch with an address resolution processor. It would have been obvious to one skilled in the art at the time of the invention to use the switch of Miller containing ARL as the external address resolution module of Kung. The motivation would be to use an available type of hardware for resolving addresses.

Regarding claim 6, receiving a data packet in an input port is disclosed in Kung, figure 2, element 210 (a gigabit switch would receive data packets at input ports). Transmitting the packet from said input port over an interface to an external module for resolving the address of the packet, processing the packet in the external module, and transmitting the packet from the external module to the interface, and receiving the packet from the external module is disclosed in figure 2, element 214 (packets are sent over the interface to the external DNS for processing, then are returned once they are processed). Transmitting said data packet from said interface to a memory management unit is disclosed in figure 2, element 216, and column 8, lines 14-26 (the system manager does memory buffering for this switch). Transmitting said data packet from said memory management unit to an output port is disclosed in figure 2, element

210 (a gigabit switch would transmit packets to output ports). Claim 6 further specifies that the external module is a switch, which is missing from Kung. However, Miller discloses in column 2, lines 9-10, a switch with an address resolution processor. It would have been obvious to one skilled in the art at the time of the invention to use the switch of Miller containing ARL as the external address resolution module of Kung. The motivation would be to use an available type of hardware for resolving addresses.

Regarding claim 7, a network switch comprising an input pod receiving means for receiving a data packet in an input pod is disclosed in Kung, figure 2, element 210 (a gigabit switch would receive data packets at input pods). An input port transmitting means for transmitting said data packet from said input pod over an interface to an external module for address resolution, a processing means for processing said packet in said external module, an external module transmitting means for transmitting said packet from said external module to said interface, and an interface receiving means for receiving said data packet in said interface from said external module are disclosed in figure 2, element 214 (packets are sent over the interface to the external DNS for processing, then are returned once they are processed). An interface transmitting means for transmitting said data packet from said interface to a memory management unit is disclosed in figure 2, element 216, and column 8, lines 14-26 (the system manager does memory buffering for this switch). A memory unit transmitting means for transmitting said data packet from said memory management unit to an output port is disclosed in figure 2, element 210 (a gigabit switch would transmit packets to output ports). Claim 7 further specifies that the external module is a switch, which is missing

from Kung. However, Miller discloses in column 2, lines 9-10, a switch with an address resolution processor. It would have been obvious to one skilled in the art at the time of the invention to use the switch of Miller containing ARL as the external address resolution module of Kung. The motivation would be to use an available type of hardware for resolving addresses.

Regarding claim 11, the external address resolution switch being configured to perform an address resolution function is missing from Kung. However, Miller discloses in column 2, lines 9-10, a switch with an address resolution processor, which performs address resolution functions. It would have been obvious to one skilled in the art at the time of the invention to use the switch of Miller containing ARL as the external address resolution module of Kung. The motivation would be to use an available type of hardware for resolving addresses.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kung in view of Miller in further view of Godfrey. The address resolution switch includes an external address resolution chip connected to the external interface is missing from Kung. However, Kung does disclose in figure 2, element 214, an external DNS. Also, Godfrey discloses in column 2, lines 16-18, a DNS embedded on a chip. It would have been obvious to one skilled in the art at the time of the invention to use an external DNS chip for address resolution. The motivation would be to use a small, chip-sized component.

5. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kung in view of Miller in further view of Strike.

Regarding claim 8, means to detect a connection with an external address resolution switch is missing from Kung. However, Strike discloses in column 5, lines 28-47 a switch that can detect whether an external module is connected to the switch. It would have been obvious to one skilled in the art at the time of the invention to use the detection system of Strike in conjunction with the switch of Kung. The motivation would be to facilitate the connection of the external module (column 1, lines 12-15). An internal address resolution means to perform an address resolution function in absence of said external address resolution switch is missing from Kung. However, Miller discloses in column 2, lines 9-10, a switch having internal address processing means. It would have been obvious to one skilled in the art at the time of the invention to include internal address resolution processing means in the system of Kung. The motivation would be to use a backup hardware configuration for resolving the addresses in the absence of the external module.

Regarding claim 9, detecting a connection to said external switch is missing from Kung. However, Strike discloses in column 5, lines 28-47 a switch that can detect whether an external module is connected to the switch. It would have been obvious to one skilled in the art at the time of the invention to use the detection system of Strike in conjunction with the switch of Kung. The motivation would be to facilitate the connection of the external module (column 1, lines 12-15). Performing an address resolution function in absence of said external switch is missing from Kung. However, Miller discloses in column 2, lines 9-10, a switch having internal address processing means. It would have been obvious to one skilled in the art at the time of the invention

to include internal address resolution processing means in the system of Kung. The motivation would be to use a backup hardware configuration for resolving the addresses in the absence of the external module.

Regarding claim 10, means for determining a connection to said external switch is missing from Kung. However, Strike discloses in column 5, lines 28-47 a switch that can detect whether an external module is connected to the switch. It would have been obvious to one skilled in the art at the time of the invention to use the detection system of Strike in conjunction with the switch of Kung. The motivation would be to facilitate the connection of the external module (column 1, lines 12-15). An internal address resolution means for performing an address resolution function in absence of at least one of said external switch transmitting means, said interface receiving means, and interface transmitting means is missing from Kung. However, Miller discloses in column 2, lines 9-10, a switch having internal address processing means. It would have been obvious to one skilled in the art at the time of the invention to include internal address resolution processing means in the system of Kung. The motivation would be to use a backup hardware configuration for resolving the addresses in the absence of the external module.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kung in view of Miller in further view of Oura. The external address resolution switch including buffering means is missing from Kung. However, Oura discloses in column 2, lines 23-26, that a typical switch includes a buffer. It would have been obvious to one skilled in the art at the time of the invention to use a switch with buffering means in the system of

Kung. The motivation would be to transfer a plurality of packets for different destinations concurrently (Oura, column 2, lines 23-36).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L. Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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10/26/2005

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